

## REMARKS

The above changes to the priority claim in the "CROSS REFERENCE TO RELATED APPLICATIONS AND PATENTS" have been made in order to better describe the priority chain for the instant application.

No new matter has been added in the current application as a continuation of U.S. Patent 6,222,525 and as a continuation of U.S. Patent 6,310,606. In the current specification at numerous locations the language "3D" and in some cases "three-dimensional" have been used in substitution for "6DOF" and "six degrees of freedom" as originally used in the application issued as patent 6,222,525 from which the current specification is continued. This substitution of language does not constitute new matter, but has been made to allow the current reader easier understanding of the subject matter. Any single three-dimensional software object moving, for example in an electronic game, is moving in six degrees of freedom. This "6DOF" and "six degrees of freedom" language is not as commonly used now as when the '525 patent was filed and the same equivalent product or device which was once so called is now commonly called a 3D or three-dimensional controller. Applicant believes the Examiner understands that the language "six degrees of freedom" and "6DOF" as used in the current specification is simply language used to describe control of three dimensional graphics. The Examiner has cited Goto et al. U.S. patent 6,231,444 as prior art, and during the 7/25/02 in person interview, Applicant and the Examiner agreed that Goto is analogous art to the present invention but because of the date Goto is not prior art. The specification and drawings describe various examples of controllers for controlling three dimensional graphics with multiple input members and various structures, sub-structures and the like. The present invention teaches combinations of single axis input structures (members) such as finger depressible buttons, and input structures (members) for two axes and multiple axes up to six

axes and more for controlling imagery. The structures, sub-structures and methods taught in the current application offer great advantage in controlling three-dimensional graphics such as the graphics used in, for example, television based electronic games, their controllers, consoles, game software, associated three-dimensional graphics and the like. Specific definitions in the 6,222,525 patent set forth for the words having as a root "manipulate", "operate", and "convert" have not been found to be useful in the current application and these specific definitions have not been carried forward in the current application. Not carrying forward these specific definitions results in no material change in scope of the current application and its claims, and no new matter has been added to the matter of patent 6,222,525. The Examiner is respectfully requested to verify these facts and to inform Applicant in writing if the Examiner does not agree.

The above amendment to the paragraph on page 4 in the specification, lines 12-25, simply makes that paragraph wording the same as in the counterpart paragraph in column 5 lines 1-14 in patent 6,222,525.

The original Application 08/677,378 now patent 6,222,525 was a continuation-in-part of 07/847,619 now patent 5,589,828 and the 5,589,828 patent was not incorporated by reference in the 6,222,525 patent but the 6,222,525 patent being a continuation-in-part of the 5,589,828 patent had essentially or substantially all the teachings of the 5,589,828 patent in the teaching of the 6,222,525 patent. Specifically, the Examiner is directed to Fig. 21 of 6,222,525 patent wherein a motor and offset weight are shown in dashed lines and the specification repeatedly refers to those parts as "active tactile feedback means" even though the words "motor" and "offset weight" were not specifically used in the 08/677,378 application as filed and issued as patent 6,222,525, these parts are in fact shown in the issued 6,222,525 patent and are shown and named motor and offset weight in the 5,589,828 patent from which patent 6,222,525 is a continuation-

in-part. In the 5,589,828 patent the motor and offset are not merely "shown" but rather the motor and offset weight are dramatically set forward in the title of the patent, in the claims, in the title page drawing, in figures 1, 2, 6, 7 and many numerous references in the written description. The motor and offset weight shown in Figures 2 and 7 of patent 5,589,828 are identical to that shown in Fig. 21 of patent 6,222,525. The mere addition of the "words" motor and offset weight in the instant application do not constitute new matter. The Examiner is respectfully requested to examine this issue and if the Examiner agrees that no new matter has been added then further discussion of this topic is not necessary. If the Examiner thinks any new matter to the details of patent '525 may have been added, then the Examiner is respectfully requested to inform Applicant in writing in the next response.

The use of the wording "positive teachings and disclosures" in reference to incorporation by reference into this specification is intended to mean that the useful teachings are brought into the current application (the same as actually being therein), but not any possibly construed negative limitations, such as limitations possibly created in the prosecution history of the incorporated by reference disclosures. The spirit of the incorporation by reference material is to provide positive support and not to limit to the detriment of the current specification and claimed invention.

While Applicant understands that there are currently no grounds for rejection to overcome due to points 1-3 as detailed above regarding the Interview Summary, Applicant will now generally address points 1-6 on pages 2-5 of the 5/20/02 Office Action which combines references. A point Applicant would like to make is that there is no proper basis for combining the references as they were combined. The Examiner in the 05/20/02 Office Action does not point to any page and line in the references which clearly shows the properness of combining the references and features thereof. The Examiner is clearly using

improper hindsight to combine the references. Such hindsight gained from a reading of Applicant's disclosure cannot be used to properly support a finding of obviousness. The Examiner's attention is directed to the very important case of *In re Dembiczak* 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). As stated in *In re Dembiczak* by the Court: (Applicant added the underlining for emphasis)

... "Our analysis begins in the text of section 103 quoted above, with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight," see *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 USPQ 90, 98 (Fed. Cir. 1985), overruled on other grounds by *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 USPQ2d 1097 (Fed. Cir. 1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to

the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." Id.

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed

the propriety of combination"). See also Graham, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. See, e.g., Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), Para-Ordinance Mfg. v. SGS Imports Intern., Inc., 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," Rouffet, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., C.R. Bard, 157

F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." E.g., *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references.

.... To the contrary, the obviousness analysis in the Board's decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday

bag reference depicts a "premanufactured orange" bag material, see Dembiczak, slip op. at 21, finds that Shapiro teaches the use of paper bags in various sizes, including "large", see id. at 22-23, and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice, see id. at 24. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. See Rouffet, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board's failure to explain, when analyzing the prior art, "what specific understanding or technical principle . . . would have suggested the combination"). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand. See C.R. Bard, 157 F.3d at 1352, 48 USPQ2d at 1232; Rouffet, 149 F.3d at 1359, 47 USPQ2d at 1459; Fritch, 972 F.2d at 1265, 23 USPQ2d at 1783; Fine, 837 F.2d at 1075, 5 USPQ2d at 1600; Ashland Oil, 776 F.2d at 297, 227 USPQ at 667."

(End quotes from In re Dembiczak)



Further regarding the points 1-6 in the 5/20/02 Office Action, Applicant respectfully directs the Examiner's attention to In RE ZURKO:

(Applicant added the underlining for emphasis)

IN RE MARY E. ZURKO regarding Serial No. 07/479,666; DECIDED: August 2, 2001 at

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT decided

Before NEWMAN, Circuit Judge, ARCHER, Senior Circuit Judge, and MICHEL, Circuit Judge.

ARCHER, Senior Circuit Judge.

"This case is before us on remand from the Supreme Court of the United States. Dickinson v. Zurko, 527 U.S. 150, 50 USPQ2d 1930 (1999) ("Zurko III...

#### BACKGROUND

The '666 application concerns a method for more efficiently creating a secure computer environment. Secure, or "trusted," computer environments employ trusted software designed to preclude unauthorized users and to prevent unintended or unauthorized commands. Such trusted software is often quite costly, compared to untrusted software, so it is desirable to minimize the amount of trusted software in the system. Applicants claim a method for processing trusted commands with a minimum of trusted software...

The Board sustained the Examiner's rejection of claims 1, 4, and 5 of the '666 application under 35 U.S.C. 103 based on two prior art references. The primary reference

is the UNIX operating system, as described in the applicants' information disclosure statement ("IDS"). According to this description, the UNIX system employs both untrusted and trusted code. Furthermore, certain commands in a UNIX system may be parsed in an untrusted environment, and then these parsed commands may be executed by "calling a trusted service that executes in a trusted computing environment.

The secondary reference, also described in applicants' IDS, is Dunford, FILER Version 2.20 ("FILER2"). This program repeats back potentially dangerous commands, requesting confirmation from the user before execution.

Considering the teachings of these two references, the Board concluded that the invention claimed by the '666 application would have been obvious. ....

On remand, applicants urge that we maintain our reversal of the Board's decision, arguing that the decision is legally flawed, or, alternatively, that the Board's factual findings fail under the APA standard of review. The Commissioner responds that we must affirm the Board decision because its findings are supported by substantial evidence in the record.

#### DISCUSSION

A claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at

the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. 103(a) (1994); *Graham v. John Deere Co.*, 383 U.S. 1, 14, 148 USPQ 459, 465 (1966). Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18, 148 USPQ at 467; *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ 1614, 1616 (Fed. Cir. 1999); *In re Napier*, 55F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (stating that the inherent teachings of a prior art reference is a question of fact). We review the ultimate legal determination of obviousness without deference. *In re Dembiczak*, 175 F.3d at 998, 50 USPQ at 1616. We review factual findings underlying this determination for substantial evidence. *In re Gartside*, 203 F.3d at 1311-16, 53 USPQ2d at 1772-75.

Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); see also *Zurko III*, 527 U.S. at 162, 50 USPQ2d at 1772-75. A review under this standard "involves an examination of the record as a whole, taking into consideration evidence that both justifies and detracts

from the agency's decision." In re Gartside, 203 F.3d at 1312, 53 USPQ2d at 1773 (citing Universal Camera Corp. v. NLRB, 340 U.S. 474, 487-88 (1951)). In addition, "the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency's finding from being supported by substantial evidence." Consolo v. Fed. Maritime Comm'n, 383 U.S. 607, 619-20 (1966).

The substantial evidence standard has been analogized to the review of jury findings, and it is generally considered to be more deferential than the clearly erroneous standard of review. Zurko III, 527 U.S. at 162-63, 50 USPQ2d at 1936. The Supreme Court noted in Zurko III, however, that this generally recognized difference is "a subtle one," so fine that in its review of case law in the Zurko III decision, the Court could not find any other case where a reviewing court had conceded that the standard of review made a difference. *Id.* Moreover, while appellate courts must respect agency expertise, the Court has "stressed the importance of not simply rubber-stamping agency fact finding." *Id.* (citing Universal Camera, 340 U.S. at 477-78). Indeed, the Court observed that Federal Circuit judges "will examine [Board fact] findings through the lens of patent-related experience -- and properly so, for the Federal Circuit is a specialized Court." *Id.* The Court further noted that this "comparative expertise, by enabling the

Circuit better to understand the basis for the [Board's] finding of fact, may play a more important role in assuring proper review than would a theoretically somewhat stricter standard." Id.

With this guidance from the Supreme Court in mind, we now reconsider the Board's decision. ...

"We cannot accept these findings by the Board. This assessment of basic knowledge and common sense was not based on any evidence in the record and, therefore, lacks substantial evidence support. As an administrative tribunal, the Board clearly has expertise in the subject matter over which it exercises jurisdiction. This expertise may provide sufficient support for conclusions as to peripheral issues. With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.[2] To hold otherwise would render the process of appellate review for substantial evidence on the record a meaningless exercise..."  
"Accordingly, we cannot accept the Board's unsupported assessment of the prior art."

#### CONCLUSION

"The Board's conclusion of obviousness

was based on a misreading of the references relied upon and, therefore, lacks substantial evidence support. Accordingly, the Board's judgment is reversed."

(End of Zurko Discussion by Applicant)

If the Examiner disagrees with the findings and guidance of the Court of Appeals for the Federal Circuit as setforth above then the Examiner is respectfully requested to so inform Applicant. In the 5/20/02 Office Action, page 5 point 6, the Examiner correctly states "The test for combining references is what that as a whole would have suggested to one of ordinary skill in the art. In re Sheckler, 168 USPQ 716 (CCPA 1971)". Respectfully, the quoted cases of Dembiczak (1999) and Zurko (2001) have recently and clearly define the language the Examiner has setforth from Sheckler (1971). Specifically, the language "as a whole would have suggested" now has a clearly defined meaning which the Examiner and Patent Office must follow, which the Examiner, respectfully, did not do.

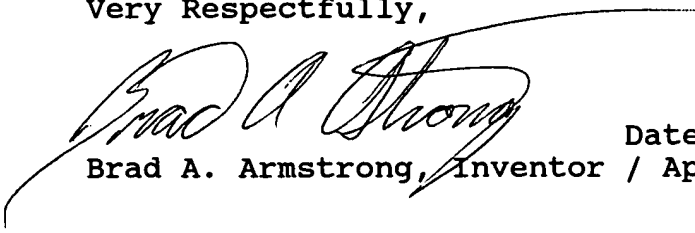
The present application is in condition for allowance and it is respectfully requested that the Examiner examine the application and claims as amended in view of the herein Remarks and the prior art, and find all of the claims as now pending allowable.

Thank you.

I hereby declare that I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought; I further declare that no new matter has been entered; and that I understand that I must submit to the PTO all prior art that I am aware of that might be material to the patentability of my invention, and I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Very Respectfully,

A handwritten signature in cursive script, appearing to read "Brad A. Armstrong", is written over a horizontal line.

Date: Nov. 8, 2002

Brad A. Armstrong, Inventor / Applicant

## AMENDMENTS TO THE SPECIFICATION IN MARKED UP VERSION

Please amend the specification as below indicated. The amendments are made with bracketing showing deletion, and underlining showing insertion. Following the marked up version section of the specification is a clean version section of the specification. Please use the clean versions of the amended portions of the specification for the application and patent to issue therefrom. Thank you.

To the "CROSS REFERENCE TO RELATED APPLICATIONS AND PATENTS" on pages 1 and 2 in the specification, which was previously amended on Feb. 22, 2002 to change the series "08" on 08/847,619, to the correct series 07, please make the following further amendments: (delete the entire below paragraph)

## [ CROSS REFERENCE TO RELATED APPLICATIONS AND PATENTS

This application is a continuation-in-part of pending U.S. Non-provisional patent application Serial Number 08/677,378 filed July 5, 1996 of which the positive teachings and disclosures are herein incorporated by reference and the benefit of the filing date claimed. Also herein incorporated by reference for the positive teachings and disclosures therein is U.S. Disclosure Document Number 381081 filed Nov. 22, 1995 which has been placed in the file of U.S. Application 08/677,378. U.S. Application 08/677,378 was filed during the pendency of U.S. application 07/847,619 filed March 5, 1992 and also makes claim to the benefit of the filing date of the application 07/847,619, now U.S. Patent 5,589,828. This application is also a continuation-in-part of U.S. patent application serial number 07/847,619, filed March 5, 1992, now U.S. Patent 5,589,828, of which the positive teachings and disclosures are herein incorporated by reference. This application is also a continuation-in-part of pending U.S. application 09/510,572 filed 02/22/00 as a continuation of U.S. patent application serial number 08/942,450, filed Oct. 1, 1997, now U.S. Patent No. 6,102,802 both of which the positive teachings and disclosures



are herein incorporated by reference and the benefits of the filing dates claimed. This application also is a continuation-in-part of U.S. patent application serial number 08/393,459, filed February 23, 1995, now U.S. Patent 5,565,891, which is a continuation-in-part of U.S. patent application serial number 07/847,619 now U.S. Patent 5,589,828. The instant application claims the benefits under 35 U.S.C. 120 of the filing dates of the above.]

(the below CROSS REFERENCE TO RELATED APPLICATIONS AND PATENTS replaces the above deleted section)

CROSS REFERENCE TO RELATED APPLICATIONS AND PATENTS

This Application is a continuation of U.S. Patent Application Serial No. 09/721,090 filed on Nov. 21, 2000, now U.S. Patent 6,310,606.

This Application is also a continuation of U.S. Patent Application Serial No. 08/677,378 filed on July 5, 1996, now U.S. Patent 6,222,525.

U.S. Patent No. 6,222,525 is a continuation-in-part of U.S. Patent Application Serial No. 08/393,459 filed on Feb. 23, 1995, now U.S. Patent 5,565,891.

U.S. Patent No. 6,222,525 is also a continuation-in-part of U.S. Patent Application Serial No. 07/847,619 filed on March 5, 1992, now U.S. Patent 5,589,828.

The instant application claims the benefits under 35 U.S.C 120 of the filing dates of the above listed Patents and or Applications.

The positive teachings and disclosures of U.S. Patents 6,222,525, 5,565,891 and 5,589,828 are herein incorporated by reference. Also herein incorporated by reference for the positive teachings and disclosures therein is U.S. Disclosure Document Number 381081 filed Nov. 22, 1995 which is located in the file of U.S. Patent 6,222,525.

Amendment To the Title of the Invention:  
Change the title throughout the application from  
"SHEET CONNECTED SENSORS WITH VIBRATION"  
to --IMAGE CONTROLLER--

or in other words, on page 1 delete

[SHEET CONNECTED SENSORS WITH VIBRATION]

and insert that new title

IMAGE CONTROLLER

The new title is also shown in the clean version of the amendments below. Thank you.

In the specification, on page 4, the paragraph on lines 12-25, please delete that paragraph as immediately below shown in brackets, and in place thereof insert the underlined paragraph which follows the deleted paragraph:

[The present controllers include at least one hand operable input member (platform) defined in relationship to a reference member, e.g., base, housing or handle of the controller. The input member can be a trackball operable relative to a housing (reference member), or the input member can be any handle fit to be manipulated by a human hand, such as a joystick type handle, but in any case, the input member(s) accept 3D of hand input relative to the reference member, and the converter acts or operates from the hand inputs to cause influencing of the sensors which inform or shape electricity to be used as, or to produce such as by way of processing, an output signal suitable for a host device to at least in part control or assist in controlling the image on the display of the host device.]

The present controllers include the hand operable input member defined in relationship to a reference member of the controller. The input member can be a trackball operable relative

to a housing (reference member) as described in my above mentioned co-pending application, or alternatively, the input member can be any handle fit to be manipulated by a human hand, such as a joystick type handle, but in either case, the input member accepts 6 DOF of hand input relative to the reference member, and the converter acts or operates from the hand inputs to cause influencing of the sensors which inform or shape electricity to be used as, or to produce such as by way of processing, an output signal suitable for a host device to at least in part control the image on the display of the host device.

## AMENDMENTS TO THE CLAIMS IN MARKED UP VERSION

Please make the following changes wherein underlining shows insertions and bracketing shows deletion.

1. (twice amended) An image controller comprising:

[an] a first input member [with associated] positioned to activate first input member sensors, said first input member moveable on at least two axes;

a second input member positioned to activate second input member sensors, said second input member moveable on at least two axes;

a plurality of finger depressible [buttons] button input members [with associated] positioned to activate button input member sensors;

a circuit board sheet structurally connecting, at least in part, said first input member sensors to said second input member sensors; [to the sensors of said input member, and said sheet structurally connecting, at least in part, to the sensors of said finger depressible buttons; said sheet having

electrically conductive traces located on said sheet, said electrically conductive traces electrically connecting with the sensors of said input member, and said electrically conductive traces electrically connecting with the sensors of said finger depressible buttons;]

said image controller is connected to an image generation device;

[at least one of the finger depressible buttons has a tactile resilient structuring for providing a user discernable tactile feedback;]

at least one of the button input member sensors is a pressure-sensitive variable sensor [is the sensor associated with said at least one of the finger depressible buttons], whereby depression of [said] at least one of the finger depressible [buttons] button input members provides a proportional signal representing [the] a level of depressive pressure applied [and

causes said user discernable tactile feedback]; and

active tactile feedback [means mounted] as a component of said controller for providing vibration to be felt by a hand operating said controller, said active tactile feedback [means including] comprising a motor [with shaft] and a weight.

2. (once amended) An image controller according to claim 1 in which said sheet also connects, at least in part, to at least one of said button input member sensors. [comprises a flexible membrane sheet.]

3. (twice amended) An image controller comprising:  
[an] a first input member [movable] controllable by a human hand on at least two axes, said first input member [having associated] structured to activate a first set of sensors; and  
a second input member controllable by a human hand on at least two axes, said second input member structured to activate a second set of sensors;

a plurality of finger depressible button input members [buttons], said finger depressible button input members [buttons having associated] structured to activate a third set of sensors; and

[at least one sheet connecting to the sensors of said input member, and said at least one sheet connecting to the sensors of said finger depressible buttons;]

a circuit board connects the first set, the second set and the third set of the sensors.

[said at least one sheet includes electrically conductive traces, said traces engaging the sensors;

at least one of the finger depressible buttons is structured with a resilient dome cap;

said resilient dome cap is structured to provide, when depressed, a tactile feedback to a human hand;

an active tactile feedback motor mounted as a component of said controller for providing vibration to be felt by a hand

operating said controller.]

4. (once amended) An image controller according to claim 3 in which said at least one of the finger depressible button input members [buttons] is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible button input members [buttons] provides a proportional signal representing [the] a level of depressive pressure applied.

5. (twice amended) An image controller according to claim 3 wherein said image controller further comprises an active tactile feedback motor which rotates an offset weight.

6. (once amended) An image controller according to claim 5 wherein said [at least one sheet comprises a substantially flexible sheet.] circuit board has electrical circuit traces and an application specific integrated circuit chip located on said circuit board.

7. (once amended) An image controller according to claim 6 wherein said at least one of the finger depressible button input members [buttons] is associated with a pressure-sensitive variable sensor, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing [the] a level of depressive pressure applied.

8. (twice amended) An image controller comprising:  
[an] a first input member with associated sensors, said first input member moveable on at least two axes;  
a second input member with associated sensors, said second input member moveable on at least two axes; and  
at least four independent finger depressible buttons with associated sensors; and  
[at least one sheet connecting] a circuit board sheet

connects to the sensors of [said input member, and said at least one sheet connecting to] the input members and the sensors of said finger depressible buttons[;

active tactile feedback structure mounted as a component of said controller for providing vibration to be felt by a hand operating said controller].

9. (twice amended) An image controller according to claim 8 in which at least one of the finger depressible buttons is structured with a resilient dome cap, and said image controller further comprises active tactile feedback structure mounted as a component of said controller for providing vibration to be felt by a hand operating said controller. [comprises an electric motor with offset weight.]

10. An image controller according to claim 9 in which said image controller is connected to an image generation device.

11. An image controller according to claim 10 in which said image generation device includes a television based electronic game.

12. (once amended) An image controller according to claim 11 wherein [said at least one sheet comprises

a flexible membrane sheet.] said active tactile feedback structure comprises an electric motor with offset weight.

13. An image controller according to claim 12 in which a plunger is positioned above said dome cap, said plunger comprising a non-conductive rigid plastic material.

14. (twice amended) An image controller according to claim 9 in which said at least one of the finger depressible buttons is a variably depressible button associated with a [pressure-sensitive] variable sensor for providing a proportional

signal, [whereby] wherein depression of [said at least one of the finger depressible buttons] said variably depressible button provides a proportional signal representing variable depression of said variably depressible button. [the level of depressive pressure applied.]

15. (once amended) An image controller according to claim 14 wherein said variable sensor is a pressure-sensitive variable sensor. [8 in which said at least one sheet comprises a flexible membrane sheet connected to  
a second sheet.]

16. (once amended) An image controller according to claim 15 in which said circuit board sheet supports an application specific integrated circuit. [said second sheet is a circuit board.]

17. (once amended) An image controller according to claim 8 [15] in which said image controller further comprises a second circuit board sheet. [said second sheet is a rigid support structure for said flexible membrane sheet.]

18. (once amended) An image controller according to claim [16] 17 further comprising active tactile feedback provided by a motor and offset weight.  
[in which said at least one sheet comprises said flexible membrane sheet further supported by a third sheet, said third sheet is a rigid membrane support structure.]

19. (once amended) An image controller according to claim [18] 17 in which said at least one of the finger depressible buttons is associated with a pressure-sensitive variable sensor for providing a proportional signal, whereby depression of said at least one of the finger depressible buttons provides a proportional signal representing [the] a level of depressive



pressure applied.

20. An image controller according to claim 19 wherein said pressure-sensitive variable sensor includes an electrically conductive pill carried by [said] a dome shaped member; said electrically conductive pill comprising deformable material and having a convexed surface shape, whereby when said button is depressed with increasing input pressure the convexed shaped material deforms to contact additional surface area to provide additional conductivity changes.

21. (twice amended) A method of interacting with an image controller controlling at least a three-dimensional object image, comprising:

receiving a first signal from said image controller, said first signal derived from a pressure-sensitive analog sensor associated with a single independent depressible button positioned [in a right-hand area of] on said image controller, said first signal used to control said three-dimensional object image, and

sending a second signal to said image controller, said second signal used to provide an active tactile feedback vibration felt by a hand of a human user, the act of sending said second signal results from virtual contact of said three-dimensional object image caused by the act of receiving said first signal.

32. (once amended) A method according to claim 31 further comprising

using at least some of the commands to control the electronic game, and said sending is according to simulated contact in the electronic game.

[wherein said four unidirectional sensors are proportional sensors and have resilient tactile structuring for providing user discernable tactile feedback upon depression of independent buttons associated with said four unidirectional sensors.]